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**PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT
ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(b)**

Docket Number (Optional)
1789-100000 (11321-P023US)

First named inventor: James M. Tour

Application No.: 10/090,211

Art Unit: 1742

Filed: March 4, 2002

Examiner: W. T. Leader

Title: Electrochemically Accelerated Self-Assembly of Molecular Devices

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
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The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the office notice or action plus an extensions of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee - required for all utility and plant applications filed before June 8, 1995; and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. Petition fee

☒ Small entity-fee \$ 750.00 (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.

☐ Other than small entity - fee \$ _____ (37 CFR 1.17(m))

2. Reply and/or fee

A. The reply and/or fee to the above-noted Office action in
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05/10/2006 TBESHAH1 00000019 10090211

B. The issue fee and publication fee (if applicable) of \$ 01 FC:2453

750.00 DP

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[Page 1 of 2]

This collection of information is required by 37 CFR 1.137(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.

☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ _____ for a small entity or \$ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

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May 4, 2006
Date

38,150
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512.370.2870
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☒ Reply☐ Terminal Disclaimer Form

☐ Additional sheets containing statements establishing unintentional delay

☒ Other: Copy of Revocation of Power of Attorney With New Power of Attorney; Assignee Statement; Supplement to Amendment of April 7, 2005; return postcard

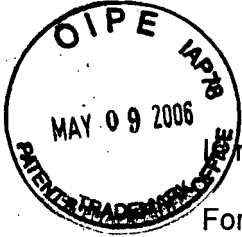
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Jeanne E. Dunn
Typed or printed name of person signing certificate



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Re: Application S.N. 10/090,211

For: ELECTROCHEMICALLY
ACCELERATED SELF-ASSEMBLY
OF MOLECULAR DEVICE

Inventors: James M. Tour; Jiping Yang
David L. Allara; Paul Weiss
and Phillipp Harder

§ Filed: March 4, 2002
§
§ Examiner: William T. Leader
§ 571-272-1245
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§ Atty Dkt: OWLS-5
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Date: 7-APR-05	Signature: <i>Hugh R. Kress</i>
Printed Name: Hugh R. Kress	

RESPONSE TO MARCH 18, 2005 OFFICE ACTION

Sir:

This paper is submitted in response to an Office Action dated March 18, 2005 ("the Office Action") issued in connection with the above-captioned application. No fees are believed to be due in connection with this submission. However, if any fees are determined to be due, the Commissioner, Assistant Commissioner, and/or the Director of the U.S. Patent & Trademark Office is/are authorized to charge Browning Bushman Deposit Account No. 02-4345, referencing matter OWLS-5.

AMENDMENTS

Prior to further examination on the merits, please amend the application as follows:

19. (amended) A method for assembling a molecular circuit on a metal substrate, comprising:

- (a) providing a mixture comprising molecular device molecules in solution, each molecular device molecule having a metal-bonding group and a protective group for impeding rapid attachment of said molecular device molecules to said metal substrate;
- (b) contacting the metal substrate with the solution; and
- (c) applying a voltage potential to the substrate so as to attract the metal-bonding groups to bond to the substrate such that the molecular devices assemble on the substrate.

REMARKS

1. *Status of the Application.* Claims 1-21 are pending in the application. Claim 19 is amended herein; no new matter is added by way of this amendment. The following summarizes the substance of the Office Action:

- claims 10, 11, 14, and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,090,933 to Kayyem et al. ("*Kayyem*");
- claims 19 and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,060,327 to Keen ("*Keen*");
- claims 20 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,589,692 to Reed ("*Reed*");
- claims 1-4, 7-14, and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Keen* in view of *Kayyem*;
- claims 15 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Keen* in view of *Kayyem* "further in view of the admitted prior art; and
- claims 5, 6, and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Reed in view of Keen and Kayyem.

As discussed below, the Assignee respectfully submits that the Office Action critically mischaracterizes the prior art cited in support of the rejections, and the Assignee respectfully requests reconsideration and withdrawal of the rejections in view of the foregoing amendments and ensuing remarks.

2. *The Section 102 Rejections.* Claims 10, 11, 14 and 20 were rejected under § 102 as being unpatentable over *Kayyem*. According to the Office Action, and as its title states, *Kayyem* is directed to "methods of attaching conductive oligomers to electrodes." The Office Action likens the conductive oligomers of *Kayyem* to the thiol-terminated "molecular devices" disclosed in the present application, and notes that the oligomers of *Kayyem* are attached to an electrode "which may be a metal such as gold." Further, the Office Action likens the *Kayyem* "linker" used to attach the oligomer to the electrode to the "metal bonding terminus protected by a protective group." Finally, the Office Action suggests that exposure of the *Kayyem*

oligomer to a solution containing ammonium hydroxide removes the protective group, as disclosed and claimed in the instant application.

Following this analysis, the Office Action concludes by stating "[t]hus, Kayyem et al. disclose the remaining steps recited in instant claims 10 and 11." Applicant respectfully takes issue with this conclusory statement, inasmuch as it appears to wholly ignore other claimed steps. In particular, what *Kayyem* does not appear to either teach or suggest is any step of "activating the metal-bonding 1 terminii of the de-protected molecular device molecules." Instead, the Office Action states only that that in *Kayyem*, removal of the protective group "*allowed* [the oligomer] to bind to the gold" (emphasis added). That is, *Kayyem* does not teach or suggest techniques for electrochemical assembly of molecular monolayers.

In the present application, "activation" of the metal-bonding terminus is accomplished through "application of a desired chemical or electrochemical stimulus." See, Specification, page 5, lines 7-8. In most preferred embodiments, the activation is achieved through application of a voltage to selected substrates. See, Specification, page 5, line 26 through page 7, line 27. The step of "activation" is an important feature of the invention, inasmuch as it makes it possible to "apply different molecular device species sequentially without affective previously applied layers." Specification, page 7, lines 15-16. It is submitted that such capability is not realized through the teachings or suggestions of *Kayyem*.

As to the significance of *Kayyem*'s failure to teach or suggest these important features of the invention, it is to be further noted that the step of "activation" appears in claim 10 separate and apart from the step of removing the protective group. In view of the significant distinctions discussed above, reconsideration and withdrawal of the § 102 rejections of claims 10, 11, 14, and 20 is therefore respectfully requested.

Claims 19 and 20 were rejected under § 102 as being anticipated by *Keen*. With respect to claim 19, the Office Action characterizes *Keen* as disclosing a method wherein "[a] medium to be deposited is contacted with a substrate [and] an electric potential is applied to the substrate to deposit polymer strands." To the extent that this is the case, it is submitted that *Keen* therefore discloses nothing

more than conventional electrochemical assembly of molecules, a process which has been well known to those of ordinary skill in the art even prior to the priority date of *Keen*.

It is further submitted that the present invention encompasses considerably more than mere electrochemical assembly of molecules, inasmuch as the present invention involves the selective inducing or retarding of molecular attachment to the substrate. In recognition of this aspect of the invention, claim 19 is amended herein to further specify that the molecular device molecules have, in addition to a metal-bonding group, "a protective group for impeding rapid attachment of said molecular device molecules to said metal substrate." It is submitted that this feature of the invention is neither taught nor suggested by the prior art, including *Keen*. It is further submitted that by including this further recitation into claim 19, that claim is fully and patentably distinguished from *Keen*.

With respect to claim 20, the Office Action states only that "[i]t is not apparent that the device recited in instant claim 20 differs from that disclosed by *Keen*." Applicant respectfully challenges this assertion, inasmuch as *Keen* neither teaches nor suggests a molecular circuit constructed by means of a process involving "impeding bonding of the molecular device molecules to the substrate sufficiently that application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 1.5 times the rate of assembly of the molecular device on a voltage-neutral substrate." (Application, claim 20, page 28, lines 4-7).

Nowhere does *Keen* allude to a distinction between assembly on a charged substrate and that on a voltage-neutral substrate. Nowhere does *Keen* mention a mechanism or method for impeding bonding of a molecule with the substrate. To ascribe any of these features of the invention to *Keen* would amount to impermissible hindsight reconstruction of the instant invention. For all of these reasons, reconsideration and withdrawal of the § 102 rejection of claims 19-20 is respectfully requested.

Claims 20 and 21 were rejected under § 102 as being anticipated by *Reed*. According to the Office Action, "[t]he *Reed* patent is directed to sub-nanoscale

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electronic systems and devices [including] conductive oligomers such as thiophene-ethylene oligomers ... functionalized with groups such as the thiol group and the carboxyl group." The Office Action further alleges that the functional groups in *Reed* "can be selectively attached to closely spaced metal pads."

Without challenging the Office Action's characterizations of *Reed*, Applicant notes merely that *Reed* clearly fails to teach or suggest other significant features of the invention disclosed and claimed in the instant application. Most importantly, it is noted that *Reed* wholly fails to teach or suggest electrochemical assembly of molecular systems. Thus, the requirement in the claims at issue that an electrical potential be applied to the substrate is not met by *Reed*. Moreover, nowhere does *Reed* either teach or suggest the concept of selectively impeding assembly of the molecular monolayer on the substrate, as is also required by the claims at issue. For these reasons, it is respectfully submitted that *Reed* falls far short of anticipating the invention disclosed and claimed in the instant application. Reconsideration and withdrawal of the § 102 rejection of claims 20 and 21 is therefore respectfully requested.

3. *The Section 103 Rejections.* Claims 1-4, 7-14, and 17 were rejected under § 103 as being unpatentable over *Keen* in view of *Kayyem*. The Office Action concedes, as is noted above, that *Keen* fails to teach or suggest the step of impeding bonding of the molecular device molecules to the substrate, but notes that *Kayyem* does disclose "the use of protective groups to protect the conductive oligomers." It is respectfully submitted that this is a mischaracterization of *Kayyem*.

First, it is again noted that *Kayyem* neither teaches nor suggests methods of electrochemical assembly of molecular device molecules on a substrate, or devices made using such techniques. With regard to the disclosure of "protecting groups," it is clear that *Kayyem* does not contemplate provision of protecting groups for "impeding bonding of the molecular device molecules to the substrate." On the contrary, *Kayyem* states that "it appears that protecting groups are required on the base, in order to prevent significant dimerization of conductive oligomers instead of coupling to the iodinated base." *Kayyem*, col. 68, lines 54-57. Indeed, *Kayyem* tends to teach away from the present invention, inasmuch as it suggests that the

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molecules must be subjected to an "in situ deprotection" to "remove[] the protecting group from the wire and allow[] it to bind to the gold." *Kayyem*, col. 64, lines 61-63. This teaching of *Kayyem* runs counter to the objective in the present application to utilize protecting groups on the molecules to impede assembly of molecules on a voltage-neutral substrate

Applicant further specifically challenges the Office Action's assertion that by making the proposed hypothetical combination of *Kayyem* and *Keen*, "the relative rates recited in claims 1-4 would have been expected to occur." In the first place, *Kayyem* neither teaches nor suggests electrochemical assembly of molecular device molecules in which a potential is applied to a substrate. *Keen*, on the other hand, fails to teach or suggest the use of protecting groups, and in any event provides no discussion of the relatively rates of assembly between a charged substrate and a voltage-neutral substrate. Thus, the proposed hypothetical combination of *Kayyem* and *Keen*, even if made, would not give persons of ordinary skill in the art any basis for comparison between assembly of protected and unprotected molecules or between assembly of molecules (either protected or unprotected) on a charged substrate versus that on a voltage-neutral substrate.

Claims 15 and 16 were rejected under § 103 as being unpatentable over *Keen* in view of *Kayyem*, and further in view of the "admitted prior art," the latter consisting of a discussion of protecting groups appearing in the Specification at page 5, lines 14-25. In this regard, it is to again be noted that *Kayyem* appears to contemplate the use of protecting groups to "prevent significant dimerization of conductive oligomers," whereas the protecting groups in the present application function to ensure that "the voltage applied to an electrode surface will cause the molecules to assemble on that surface significantly faster than on a non-charged surface in the same solution." (Specification, page 5, lines 10-12). This latter feature of the invention is not realized either in *Keen* (which does not discuss protecting groups) or in *Kayyem* (which calls for in-situ deprotection of the molecules prior to assembly).

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Claims 5, 6, and 18 were rejected under § 103 as being unpatentable over a proposed hypothetical combination of *Reed*, *Keen*, and *Kayyem*. According to the Office Action, "Reed discloses making electrical devices in which different oligomers are attached to two different closely spaced substrates." In this regard, it is noted that *Reed* appears to achieve assembly of different oligomers on closely spaced substrates through end-group functionalization of molecules to make them selectively adhere to pads of different compositions.

Notably, *Reed* does not teach or suggest impeding bonding of molecules so that application of a voltage potential to the substrate results in assembly of molecules on one substrate (a charged substrate) at a greater rate than that on another substrate (a voltage-neutral substrate). *Kayyem* is the only reference in the proposed combination which mentions protecting groups; however, *Kayyem* calls for "in-situ deprotection" of the molecules prior to assembly. Consequently, the proposed hypothetical *Kayyem/Keen/Reed* combination, even if made, would not achieve the benefits and functionality of the invention disclosed and claimed in the present application.

With specific reference to claim 6, Applicant notes that *Reed* neither teaches nor suggests electrically connecting molecular device molecules on one substrate with those on an adjacent substrate.

* * * * *

RESPONSE TO MARCH 18, 2005 OFFICE ACTION

CONCLUSION

In view of the foregoing, Applicant respectfully submits that each of the claims pending in the application is allowable, and that the application as a whole is in proper form and condition for allowance. If the Examiner believes that the application can be placed in even better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: 7-APR-2005

Hugh R. Kress

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ATTORNEYS FOR APPLICANT



SUPPLEMENT TO AMENDMENT FILED APRIL 7, 2005

As the Amendment filed under 37 C.F.R. § 1.111 on April 7, 2005 failed to include a complete listing of the Claims, this supplement is provided to remedy any deficiency in the previously-filed Amendment.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method for selectively assembling a molecular device on a first substrate, comprising:
 - (a) contacting the first substrate with a solution containing molecular device molecules;
 - (b) impeding bonding of the molecular device molecules to the substrate sufficiently that application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 1.5 times the rate of assembly of the molecular device on a voltage-neutral substrate; and
 - (c) applying a voltage potential to the first substrate so as to cause the molecular device molecules to assemble on the first substrate.
2. (Original) The method according to claim 1 wherein application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 2 times the rate of assembly of the molecular device on a voltage-neutral substrate.
3. (Original) The method according to claim 1 wherein application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 10 times the rate of assembly of the molecular device on a voltage-neutral substrate.

4. (Original) The method according to claim 1 wherein application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 100 times the rate of assembly of the molecular device on a voltage-neutral substrate.
5. (Original) The method according to claim 1, further including:
 - (d) providing a second substrate adjacent to the first substrate; and
 - (e) contacting the first and second substrates with a solution containing second-type molecular device molecules that are different from the molecular device molecules of step (a) such that said second-type molecular device molecules assemble on said second substrate.
6. (Original) The method according to claim 5, further including electrically connecting the molecular device molecules assembled on the first substrate with the second-type molecular device molecules assembled on the second substrate with a conducting material.
7. (Original) The method according to claim 1 wherein the bonding of the molecular device to the substrate is impeded by providing a protective group on the molecular device molecule.
8. (Original) The method according to claim 1 wherein the molecular device comprises an oligo(phenylene ethynylene).
9. (Original) The method according to claim 1 wherein the molecular device comprises a thiol-terminated oligo(phenylene ethynylene) and the solution includes a base.
10. (Original) A method for assembling a molecular circuit on a first substrate, comprising:
 - (a) providing a mixture comprising molecular device molecules in solution, each molecular device having a metal-bonding terminus protected by a protective group;
 - (b) removing the protective group from a portion of the molecular device molecules;
 - (c) activating the metal-bonding terminii of the de-protected molecular device molecules;
 - (d) contacting the first substrate with the solution; and

- (e) allowing the activated metal-bonding termini to bond to the substrate such that the molecular devices assemble on the first substrate.
11. (Original) The method according to claim 10 wherein step (c) comprises providing a base in the solution.
12. (Original) The method according to claim 10 wherein step (c) comprises providing an acid in the solution.
13. (Original) The method according to claim 10 wherein step (c) comprises applying a voltage to the substrate.
14. (Original) The method according to claim 10 wherein the molecular device is an oligo(phenylene ethynylene).
15. (Original) The method according to claim 10 wherein the protective group is selected from the group consisting of: thioethers, *S*-diphenylmethyl thioethers, substituted *S*-diphenylmethyl thioethers, and *S*-triphenylmethyl thioethers, substituted *S*-methyl derivatives, substituted *S*-ethyl derivatives, silyl thioethers, thioesters, thiocarbonate derivatives, thiocarbamate derivatives, and thioacetates/thiolacetates/thioacetyls.
16. (Original) The method according to claim 10 wherein the protective group comprises acetate.
17. (Original) The method according to claim 10, further including (f) attracting the activated molecular devices to the first substrate by applying a voltage potential to the substrate.
18. (Original) The method according to claim 17, further including repeating steps (a) – (f) with a second substrate and with second-type molecular devices that are different from the molecular devices assembled on the first substrate.

19. (Currently Amended) A method for assembling a molecular circuit on a metal substrate, comprising:
- (a) providing a mixture comprising molecular device molecules in solution, each molecular device molecule having a metal-bonding group and a protective group for impeding rapid attachment of said molecular device molecules to said metal substrate;
 - (b) contacting the metal substrate with the solution; and
 - (c) applying a voltage potential to the substrate so as to attract the metal-bonding groups to bond to the substrate such that the molecular devices assemble on the substrate.
20. (Original) A molecular circuit prepared by:
- (a) contacting a first substrate with a solution containing molecular device molecules;
 - (b) impeding bonding of the molecular device molecules to the substrate sufficiently that application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 1.5 times the rate of assembly of the molecular device on a voltage-neutral substrate; and
 - (c) applying a voltage potential to the first substrate so as to cause the molecular device molecules to assemble on the first substrate.
21. (Original) A molecular circuit prepared by:
- (a) contacting a first substrate with a solution containing molecular device molecules;
 - (b) impeding bonding of the molecular device molecules to the substrate sufficiently that application of a voltage potential to the substrate results in assembly of the molecular device on the substrate at a rate that is at least 1.5 times the rate of assembly of the molecular device on a voltage-neutral substrate;
 - (c) applying a voltage potential to the first substrate so as to cause the molecular device molecules to assemble on the first substrate;
 - (d) providing a second substrate adjacent to the first substrate;
 - (e) contacting the first and second substrates with a solution containing second-type molecular device molecules that are different from the molecular device molecules of step (a) such that said second-type molecular device molecules assemble on said second substrate; and

(f) electrically connecting the molecular device molecules assembled on the first substrate to the second-type molecular device molecules assembled on the second substrate with a conducting material.



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Application Number	10/090,211
Filing Date	March 4, 2002
First Named Inventor	Tour et al.
Art Unit	1742
Examiner Name	W.T. Leader
Attorney Docket Number	OWLS-S (11321-P023US)

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint the practitioners associated with the Customer Number:

47744

☒ Please change the correspondence address for the above-identified application to:

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I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
 Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Signature

Nita D. Bhakuni

Name

Nita D. Bhakuni, Director of Office of Technology Transfer, William Marsh Rice University

Date

5/2/06

Telephone

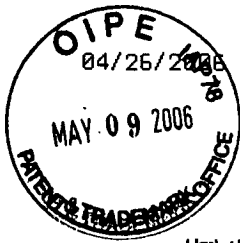
713.348.6201

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ Total of 2 forms are submitted

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PAGE 05/07

PTO/SB/86 (12-05)

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STATEMENT UNDER 37 CFR 3.73(b)Applicant/Patent Owner: WILLIAM MARSH RICE UNIVERSITYApplication No./Patent No./Control No.: 10/090 211 Filed/Issue Date: March 4, 2002Entitled: ELECTROCHEMICALLY ACCELERATED SELF ASSEMBLY OF MOLECULAR DEVICEWILLIAM MARSH RICE UNIVERSITY

(Name of Assignee)

a UNIVERSITY

(Type of Assignee: corporation, partnership, university, government agency, etc.)

states that it is:

1. ☐ the assignee of the entire right, title, and interest; or
2. ☒ an assignee of less than the entire right, title and interest
(The extent (by percentage) of its ownership interest is _____ %)

in the patent application/patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 012918, Frame 0721, or a true copy of the original assignment is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
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The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplementary sheet.

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Nilad Bhakuni
Signature5/2/06
DateNILAD BHAKUNI
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